

AMENDMENT

IN THE SEQUENCE LISTING:

Kindly replace the sequence listing of the present application with the amended sequence listing attached hereto without prejudice.

IN THE CLAIMS:

Kindly amend the claims, without prejudice, as follows:

1-51. (Cancelled)

52. (Currently amended) A kit for the analytical detection of *Staphylococcus aureus*, comprising ~~more than one nucleic acid molecule primer and/or probe, wherein~~ at least one of said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species, wherein said probe is comprised of at least 10 successive nucleotides of the region comprising nucleotide position 54 to 83 of SEQ ID. NO. 1, nucleotide position 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof.

53. (Currently amended) A kit for the analytical detection of the presence or absence of *Staphylococcus aureus*, comprising ~~more than one nucleic acid molecule primer and/or probe, wherein~~ at least one of said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to and/or amplify ~~with~~ RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species, wherein said primer and/or probe is designed to bind to a region of the *Staphylococcus aureus* RNA or DNA having the sequence of SEQ ID. NO. 1, or the complement thereof, and wherein the corresponding region of the RNA or DNA of said non-*Staphylococcus aureus* bacterial species has a sequence that differs from SEQ ID. NO. 1, or the complement thereof, by at least one nucleotide. ~~and is adapted to distinguish between bacteria to be detected and bacteria not to be detected by a differing nucleic acid sequence in at least one base position in SEQ ID NO. 1, or the complementary sequence thereof, in the genomic DNA and/or RNA of said bacteria to be detected and said bacteria that are not to be detected.~~

54. (Currently amended) A kit for the analytical detection of the presence or absence of *Staphylococcus aureus*, comprising ~~more than one nucleic acid molecule primer and/or probe,~~

~~wherein at least one of said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to and/or amplify with RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify with RNA or DNA of non-*Staphylococcus aureus* bacterial species, wherein said primer and/or probe is designed to bind to a region of the *Staphylococcus aureus* RNA or DNA having a sequence identical to nucleotide positions 54 to 83 of SEQ ID. NO. 1, nucleotide position 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, and wherein the corresponding region of the non-*Staphylococcus aureus* RNA or DNA has a sequence that differs from nucleotide positions 54 to 83 of SEQ ID. NO. 1, nucleotide position 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, by at least one nucleotide and is adapted to distinguish between bacteria to be detected and bacteria not to be detected by a differing nucleic acid sequence in at least one base position in the region comprising nucleotide position 54 to 83 of SEQ ID. NO. 1, nucleotide position 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, in the genomic DNA and/or RNA of said bacteria to be detected and said bacteria that are not to be detected.~~

55. (Previously presented) The kit according to claim 54, wherein said nucleic acid molecule primer and/or probe comprises SEQ ID NO. 1 or the complementary sequence thereof.

56. (Currently amended) The kit according to claim ~~55~~ 54, wherein ~~the sequence of~~ said nucleic acid molecule primer and/or probe comprises a sequence is selected from the group consisting of nucleotide positions 54 to 83 of SEQ ID NO. 1, nucleotide positions 100 to 166 of SEQ ID NO. 1, and or the complementary sequences thereof.

57. (Currently amended) The kit according to claim ~~55-54~~, wherein ~~the sequence of~~ said nucleic acid molecule primer and/or probe comprises a sequence is selected from the group consisting of SEQ ID NO. 2, SEQ ID NO. 3, SEQ ID NO. 4, and or the complementary sequences thereof.

58. (Currently amended) ~~The kit according to claim 52,~~ A kit for the analytical detection of *Staphylococcus aureus*, comprising at least one nucleic acid molecule primer and/or probe adapted to selectively hybridize to RNA or DNA of *Staphylococcus aureus* and to not

hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species, wherein at least 10 successive nucleotides of the sequence of said nucleic acid molecule primer and/or probe is identical to the nucleic acid primer and/or probe of claim 52, or corresponds in said primer and/or probe comprises 9 out of 10 successive nucleotides of the sequence of said nucleic acid molecule primer and/or probe of claim 52, nucleotide positions 54 to 83 of SEQ ID. NO. 1, nucleotide positions 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, or corresponds in wherein said primer and/or probe comprises 8 out of 10 successive nucleotides of the sequence of said nucleic acid primer and/or probe of claim 52 nucleotide positions 54 to 83 of SEQ ID. NO. 1, nucleotide positions 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, or wherein said primer and/or probe is at least 90% homologous to the sequence of said nucleic acid primer and/or probe of claim 52 nucleotide positions 54 to 83 of SEQ ID. NO. 1, nucleotide positions 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof.

59. (Previously presented) The kit according to claim 52, wherein said nucleic acid molecule primer and/or probe is single stranded or double stranded.

60. (Previously presented) The kit according to claim 52, wherein said nucleic acid molecule primer and/or probe is DNA, RNA corresponding to said DNA, or PNA.

61. (Previously presented) The kit according to claim 52, wherein said nucleic acid molecule primer and/or probe comprises one or more radioactive groups, colored groups, fluorescent groups, groups for immobilization on a solid phase and/or groups for an indirect or direct reaction, and combinations thereof.

62. (Previously presented) The kit according to claim 61, wherein said indirect reaction is an enzymatic reaction.

63. (Previously presented) The kit according to claim 62, wherein said enzymatic reaction utilizes antibodies, antigens, enzymes and/or substances having an affinity for enzymes or enzyme complexes.

64. (Currently amended) The kit according to claim 52, wherein 10% of the sequence of said nucleic acid molecule primer and/or probe is replaced with ~~analogous~~ nucleotides that are not naturally occurring in bacteria.

65. (Currently amended) The kit according to claim 64, wherein 1 or 2 nucleotides of said nucleic acid molecule primer and/or probe ~~is~~ are replaced with ~~analogous~~ nucleotides that are not naturally occurring in bacteria.

66. (Cancelled) The kit according to claim 64, wherein said analogous nucleotides are not naturally occurring in bacteria.

67. (Currently amended) A nucleic acid molecule primer and/or probe, comprising SEQ ID NO. 1 or a complementary sequence thereof, wherein said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to and/or amplify with RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species.

68. (Currently amended) A nucleic acid molecule primer and/or probe, comprising nucleotide positions 54 to 83 of SEQ ID NO. 1, nucleotide positions 100 to 166 of SEQ ID NO. 1 or sequences complementary thereof, wherein said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to and/or amplify with RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species.

69. (Currently amended) A nucleic acid molecule primer and/or probe, having a nucleotide sequence selected from the group consisting of SEQ ID NO. 3, SEQ ID NO. 4, SEQ ID NO. 5 and sequences complementary thereof, wherein said nucleic acid molecule primer and/or probe is adapted to selectively hybridize to and/or amplify with RNA or DNA of *Staphylococcus aureus* and to not hybridize to and/or amplify RNA or DNA of non-*Staphylococcus aureus* bacterial species.

70. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe, and
- b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said nucleic acid molecule primer and/or probe is designed to bind to, hybridize with, or amplify SEQ ID. NO. 1, or the complement of SEQ ID. NO. 1, in said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe does not bind to, hybridize with, or amplify said negative control nucleic acid.

71. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe, and
- b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe is designed to bind to, hybridize with, or amplify nucleotides 54 to 83 of SEQ ID. NO. 1, nucleotides 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, in said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe does not bind to, hybridize with, or amplify said negative control nucleic acid.

72. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe, and
- b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe is designed to bind to, hybridize with, or amplify SEQ ID. NO. 2, SEQ ID. NO. 3, SEQ ID. NO. 4, or sequences complementary thereof, in said *Staphylococcus*

aureus nucleic acid, and wherein said primer and/or probe does not bind to, hybridize with, or amplify said negative control nucleic acid.

73. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe comprising SEQ ID. NO. 1, or the complement thereof, and
 - b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,
- wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, but does not bind to, hybridize with, or amplify said negative control nucleic acid.

74. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe comprising nucleotides 54 to 83 of SEQ ID. NO. 1, nucleotides 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, and
 - b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,
- wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, but does not bind to, hybridize with, or amplify said negative control nucleic acid.

75. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe comprising SEQ ID. NO. 2, SEQ ID. NO. 3, SEQ ID. NO. 4, or sequences complementary thereof, and

b) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,
wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, but does not bind to, hybridize with, or amplify said negative control nucleic acid.

76. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

a) at least one nucleic acid molecule primer and/or probe,
b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and
c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,
wherein said nucleic acid molecule primer and/or probe is designed to bind to, hybridize with, or amplify SEQ ID. NO. 1, or the complement of SEQ ID. NO. 1, in said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.

77. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

a) at least one nucleic acid molecule primer and/or probe, and
b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and
c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe is designed to bind to, hybridize with, or amplify nucleotides 54 to 83 of SEQ ID. NO. 1, nucleotides 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, in said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.

78. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe, and
- b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and
- c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe is designed to bind to, hybridize with, or amplify SEQ ID. NO. 2, SEQ ID. NO. 3, SEQ ID. NO. 4, or sequences complementary thereof, in said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.

79. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

- a) at least one nucleic acid molecule primer and/or probe comprising SEQ ID. NO. 1, or the complement thereof, and
- b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and
- c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.

80. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

a) at least one nucleic acid molecule primer and/or probe comprising nucleotides 54 to 83 of SEQ ID. NO. 1, nucleotides 100 to 166 of SEQ ID. NO. 1, or sequences complementary thereof, and

b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and

c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.

81. (New) A kit for the analytical detection of *Staphylococcus aureus* nucleic acid, comprising:

a) at least one nucleic acid molecule primer and/or probe comprising SEQ ID. NO. 2, SEQ ID. NO. 3, SEQ ID. NO. 4, or sequences complementary thereof, and

b) at least one positive control nucleic acid isolated from a *Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a *Staphylococcus aureus* bacterial species, and

c) at least one negative control nucleic acid isolated from a non-*Staphylococcus aureus* bacterial species, or having a sequence identical or complementary to nucleic acid of a non-*Staphylococcus aureus* bacterial species,

wherein said primer and/or probe binds to, hybridizes with, or amplifies said *Staphylococcus aureus* nucleic acid, and wherein said primer and/or probe binds to, hybridizes with, or amplifies said positive control nucleic acid but does not bind to, hybridize with, or amplify said negative control nucleic acid.